Amendments to the Specification

Please replace paragraph 0018 with the following paragraph:

FIG. 5 is a side plan view of the pressure sensor 100, wherein the sensor 104 includes a capacitive sensor 502, and the proximity <u>sensor</u> surface 206 includes a grounded plate 504.

Please replace paragraph 0034with the following paragraph:

FIG. 3 is a side perspective view of the pressure sensor 100, wherein the sensor 104 and the monitor and control system 106 are implemented with an interferometer. The interferometer utilizes the proximity <u>sensor</u> surface 206 as a reflecting target. Changes in the deflection of the proximity <u>sensor</u> surface 206 result in corresponding changes to reflected light patterns received by the sensor 104. A decoder within the monitor and control system 106 determines the relative deflection of the proximity <u>sensor</u> surface 206. The monitor and control system 106 then converts the deflection measurement of the proximity <u>sensor</u> surface 206 to a pressure difference between the first and second areas 110 and 112.

Please replace paragraph 0037 with the following paragraph:

In operation, first and second optical paths 402 and 404, respectively, are formed between transmitting and receiving fibers 406 and 408, respectively. The first optical path 402 is between the transmitting fiber 406 and the receiving fiber 408. The second optical path 404 is output from the transmitting fiber 406 and reflects off the proximity <u>sensor</u> surface 206 before being received by the receiving fiber 408. A first beam of light

transmitted from the transmitting fiber 406 and received by the receiving fiber 408, via the first optical path 402, and a second beam of light transmitted from the transmitting fiber 406 and received by the receiving fiber 408, via the second optical path 404, form a spatial diffraction pattern. The pattern is a function of the relative position of the proximity sensor surface 206.

Please replace paragraph 0038 with the following paragraph:

When the proximity sensor surface 206 deflects, illustrated in FIG. 4 as "diaphragm deflection" 410, the receiving fiber 408 receives intensity-modulated light from the second path 404. A decoder in the monitor and control system 106 decodes the modulation and determines a relative deflection of the proximity sensor surface 206. The monitor and control system 106 then converts the deflection measurement of the proximity sensor surface 206 (i.e., "diaphragm deflection" 410) to a pressure difference between the first and second areas 110 and 112.

Please replace paragraph 0039 with the following paragraph:

In the example of FIG. 4, the transmitting fiber 406 includes optics that split a light from a light source into the first and second paths 402 and 404. Alternatively, two transmitting fibers are used with acoustically shifted wavelengths. The resulting interference pattern at the receiving fiber 408 constantly shifts or moves. When the proximity sensor surface 206 is motionless, the interference pattern moves with a constant speed. When the proximity sensor surface 206 moves, the speed of the corresponding shifting interference pattern changes. A counter in the monitor and control system 106 decodes the relative

deflection of the diaphragm based on the pattern changes. The monitor and control system 106 then converts the deflection measurement of the proximity sensor surface 206 to a pressure difference between the first and second areas 110 and 112.

Please replace paragraph 0040 with the following paragraph:

FIG. 5 is a side plan view of the pressure sensor 100, wherein the sensor 104 includes a capacitive sensor 502, and the proximity sensor surface 206 includes a grounded plate 504. The grounded plate 504 is made, at least in part, from conductive material such as metal. The capacitive sensor 502 is optionally located approximately 300 to 500 micrometers from the grounded plate 504. Gas, such as air, acts as a dielectric between the capacitive sensor 502 and the grounded plate 504, thus forming a capacitor. The capacitance is a function of the distance of the grounded plate 504 from the capacitive sensor 502. Changes in the deflection of the diaphragm 102 result in changes to the capacitance. The monitor and control system 106 include circuitry, such as a tank circuit, for example, which generate an oscillation or modulation corresponding to the capacitive changes. The oscillation or modulation is then converted to a relative deflection measurement for the grounded plate 504. The monitor and control system 106 then converts the deflection measurement of the grounded plate 504 to a pressure difference between the first and second areas 110 and 112.